

# Can Oil and Gas Markets Adjust to a Rising Persia?

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**SUMMARY** A nuclear deal with Iran could help revive the country's energy sector, with serious effects on consumers and producers, especially in the Middle East.

Given its substantial oil and gas resource potential, Iran must be on the radar screen of every major international oil company. Nevertheless, with the exception of Chinese and Russian players who are the only international oil companies currently involved with developing Iranian oil fields, major oil companies have shied away from Iran.

This is largely explained by a series of sanctions, mainly targeting the banking and energy sectors and imposed in recent years by the United States, the United Nations, and the European Union, that have limited investment in Iran.

The big oil companies, however, are keen to return to Iran if the international community and the Islamic Republic reach a long-term deal on its nuclear program and the sanctions are lifted accordingly, and if Iran offers more lenient contractual terms.

For Iran, foreign investment, capital, and technology are all needed to reverse the country's oil production decline and expand its export capacity.

The deadline for reaching a deal is November 24, 2014. While the outcome of negotiations between Iran and the six world powers known as P5+1 (China, France, Germany, Russia, the UK, and the United States) remains uncertain, a resolution of the current stalemate would have significant geopolitical implications. But it would also bring important changes to oil and gas markets, with serious effects on major consumers and producers, especially in the Middle East.

## A Vast Energy Potential

Iran holds substantial reserves of hydrocarbons. According to the 2014 *BP Statistical Review of World Energy*, the Islamic Republic sits on the largest proved gas reserves in the world (1,200 trillion cubic feet, more than 18 percent of the world total) and the fourth-largest proved oil reserves (157 billion barrels, the equivalent of more than 9 percent of the world total), after Venezuela, Saudi Arabia, and Canada.

What is equally impressive is that, despite the many sanctions imposed on it, Iran still has the second-largest economy in the Middle East and North Africa, after Saudi Arabia. It also remains a sizeable oil and gas

producer. It is the third-largest gas producer after the United States and Russia, and the seventh-largest oil producer after Saudi Arabia, Russia, the United States, China, Canada, and the United Arab Emirates.

Both the economy and the investment climate, however, are increasingly suffering from the burden of sanctions. According to the IMF, since early 2012, international trade and financial sanctions brought renewed shock waves and pushed the economy into a deep contraction. The World Bank ranked the country poorly at 152 out of the 189 countries surveyed in the *Doing Business 2014* report, with only Algeria, Djibouti, Syria, and Libya ranking lower among countries in the region.

The combination of limited investment and sanctions has curtailed Iran's oil and gas production. Iran needs more than \$500 billion investment in its oil and gas industry during the next fifteen years to maintain and enhance its production. In its current state, however, Iran's oil and gas production performance does not well reflect the country's potential.

The gas sector remains underdeveloped and most production is used to meet growing domestic demand. Significant investment is needed to build the necessary infrastructure for pipelines and liquefied natural gas (LNG). Until that materializes, Iran will not be able to fully exploit its large gas wealth. On the contrary, the country wastes a good share of this valuable resource by simply burning it. Associated natural gas, produced with oil, is burned or flared at oil extraction sites because of the absence of natural gas processing and transportation infrastructure. Iran is the third-largest gas-flaring nation in the world, after Russia and Nigeria.

Oil production reached a peak of more than 6 million barrels per day (mbpd) in 1974 and has struggled since to exceed 4 mbpd. Iran's oil production of 3.5 mbpd in 2013 was 6 percent lower than the 2012 level, marking a twenty-year low.

Exports are also underperforming. In 2011, Iran was the third-largest exporter of crude oil, after Saudi Arabia and Russia, exporting around 2.5 mbpd. That figure dropped significantly, by 1 mbpd, in 2012. By late 2013, the sanctions had reduced Iran's oil exports to about 1 mbpd, resulting in significant loss of government revenues. According to the IMF, "oil-export proceeds declined by more than half (by about 15 percent of GDP)" in 2012 and a further 15 percent in 2013. Even without additional drops in exports, Iran will see the value of its exports declining further given the fall in the price of oil, which averaged \$108 per barrel in 2013 but went to just above \$80 per barrel in October 2014.

Iran remains an important member of the Organization of the Petroleum Exporting Countries (OPEC). In 2013, it was the organization's third-largest oil producer after Saudi Arabia and the United Arab Emirates. However, unlike Saudi Arabia, which sits on the organization's largest spare capacity, Iran is unable to expand its production given the existing sanctions and lack of investment. Still, the Iranian Ministry of Petroleum said in 2012 that one of Iran's primary goals was to maintain its position as the then second-largest crude oil producer in OPEC and create additional production capacity. That would help Iran keep some influence on the oil market, especially as competition among oil producers seems to be toughening in light of the shale revolution that is transforming energy realities in North America.

## Major Reforms

In an attempt to offset sanctions and establish a more attractive investment climate, Iran in recent years has embarked on major energy reforms to tame domestic demand and rehabilitate production.

Iran's primary energy mix is simple: 98 percent of its needs are met by oil and gas, with the rest coming from hydropower, nuclear, and coal. Until 2010, its energy demand was increasing rapidly, largely fuelled by generous subsidies. Iran, however, was the first large oil-exporting country to reduce substantially energy subsidies. In 2010, the government increased domestic energy prices by up to 20 times—a move described by then president Mahmoud Ahmadinejad as the most sweeping economic "surgery" in Iran's modern history.

The impact of the pricing reforms has been notable. Between 2012 and 2013, the consumption of oil increased by less than 2 percent while that of gas barely changed, compared to 9 and 7 percent increases respectively

between 2009 and 2010.

Another radical energy reform involves the introduction of new contracts and fiscal arrangements for upstream oil and gas, in order to attract foreign capital and technology to exploration and production ventures in Iran. While international sanctions have accelerated production decline and limited exports, unattractive contractual terms have long impeded the necessary investment to boost the country's production capacity.

The Iranian constitution prohibits granting mineral concessions and ownership of resources to private and foreign entities, and, following the Islamic Revolution in 1979 and until 1995, there was no direct foreign participation in Iran's upstream oil and gas industries. But with the sector in dire need of rehabilitation following the war with Iraq in the 1980s, Iran introduced a new type of arrangement devised to bring in much-needed foreign capital without breaching the constitution. The first of the new contracts was signed with the French firm Total in 1995.

Under these restrictive buyback agreements, oil and gas companies are mere service providers; they receive a fixed per barrel remuneration, and recover some of their costs, but are not entitled to any ownership of production. The buyback contracts are also short term (less than ten years). The foreign companies are required to fund all investment costs and to carry out exploration and/or production operations on behalf of the National Iranian Oil Company (NIOC) for an agreed work program. Once that service is completed, the companies hand over the projects to the NIOC.

Not surprisingly, this type of arrangement is not favored by international oil investors. The buyback contracts simply offer, in the eyes of the investor, very limited rewards for the deployment of valuable and limited resources. Furthermore, the contractor has little incentive to reduce long-term costs and improve efficiency, because the fields will be under the control of the government at the handover date. This helps explain why Iran has been suffering from declining production, low rates of recovery from existing fields, and little exploration. According to the U.S. Energy Information Administration, Iran has not had a single new oil field enter into production between 2007 and 2014.

Extending the contractors' involvement in a given project to fifteen or twenty years, for instance, might make them willing to use more sophisticated technology for longer-term gains. This is the direction Iran seems to be taking with the introduction of a new arrangement known as the Iran Petroleum Contract (IPC), announced in February 2014.

The arrangement was based on the work of a committee that was formed by the Iranian government in October 2013 and charged with designing new contract terms to help attract major foreign oil companies back to the country. The committee studied contracts from 33 countries, including Iraq, to develop its new model. Mehdi Hosseini, the head of the Petroleum Ministry's Oil Contracts Revision Committee, said in February 2014 that the new arrangements were expected to bring \$100 billion in investment in Iran's energy sector within four years.

Originally, the new model was to be presented at a conference in London in April 2014, but that meeting was postponed. Many oil companies have been hesitant to attend such a gathering until their respective governments and Iran reach a deal on the nuclear program.

The Iranian oil minister, Bijan Namdar Zanganeh, said in October 2014 that the Petroleum Ministry was putting the final touches on the new contracts, and, if sanctions are lifted, they will be introduced to oil companies in London in February 2015.

Among its revisions, the IPC is expected to offer a longer-term agreement (twenty to twenty-five years) and is likely to yield higher returns for investors. The Iranian oil minister said that the IPC will be more competitive and more attractive to international investors than the arrangements offered by neighboring countries.

## Impact on Neighbors

An increased Iranian presence in oil and gas markets could come about in several ways. The biggest change

would accompany the lifting of sanctions as part of a long-term deal on Iran's nuclear program. An interim deal is unlikely to make a major difference, because oil and gas investments are of a long-term nature. Additionally, the introduction of more competitive contract terms would provide a major incentive for international oil and gas investors to enter the country.

If these two conditions materialize, the emergence of Iran could be seen as both an opportunity and a threat to oil- and gas-rich Arab countries.

Should Iran succeed in boosting its gas production and developing an export infrastructure, its neighboring countries are likely to be one of its main markets, given their geographical proximity and their rapidly growing thirst for natural gas.

Iran has held discussions on possible energy deals with some of the Gulf states for several years; some have failed, while others are still ongoing. In June 2014, Kuwait's oil minister announced that his country was looking to sign an agreement with Iran to purchase natural gas. Similarly, in 2013, Iran and Oman signed a memorandum of understanding (MoU) whereby Iran would export about 353 billion cubic feet of gas yearly to Oman, 70 percent of which would be used domestically and the rest for liquefaction and then re-export. Iran has also said it is ready to start exporting gas to Iraq, which ironically is the world's fourth-largest gas-flaring nation despite sitting on gas reserves larger than those in Norway and the European Union combined.

An earlier potential deal between Iran and the United Arab Emirates collapsed because of pricing disputes. Similarly, Bahrain signed an MoU with Iran for gas imports, but the deal was not pursued because of political issues.

Iran could potentially compete with Qatar to send gas to European and Asian markets. Many statements have been made about the possibility of Iran exporting gas to Europe via Turkey as a way for Europe to reduce its dependence on Russian gas. In fact, Iran was included in the original plans for both the Nabucco and Trans Adriatic pipelines, two projects intended to carry gas from Central Asia and the Middle East to Europe via Turkey. However, Iran was left out of the plans for both because of its domestic political situation.

In the oil market, an increase in Iran's production capacity would create one more challenge for OPEC.

A key difference between oil and gas is that the former has a global market while the latter has regional markets. Oil price movements are therefore best explained by changes in global supply and demand. Often these market forces are affected by external shocks, such as wars, revolutions, economic booms and busts, and even the weather.

Beginning in 2011 and until recently, the oil market has witnessed a stability in prices not seen since 1970, despite some of the world's largest supply disruptions, mainly in Iran, Libya, and Syria. In 2013 alone, the oil market saw a loss of nearly 3 mbpd, yet the price barely changed.

Despite the threat posed by the Islamic State and the imposition of Western sanctions on Russia, the oil price has been falling. But while past disruptions often led to large price increases, today's situation is fundamentally different. Additional supplies are coming to the market, especially from North America, offsetting the loss in supplies elsewhere. The United States continues to enjoy the benefits of the shale revolution, pushing its oil production to more than 10 mbpd in 2013—the highest level since 1986 and the biggest increase in U.S. history.

If another oil giant like Iran were to increase its production, the downward pressure on the price of oil would be much greater. However, OPEC, which controls more than 40 percent of global oil production, is unlikely to simply watch oil prices collapse. For OPEC members, oil is the backbone of their economies, providing the lion's share of both government and export revenues.

When oil prices fall below a certain level, OPEC typically seeks to implement production cuts to reverse the trend. Today, given the increase in shale oil production in North America, that move can, however, result in a loss of market share and an accumulation of the organization's spare capacity (the volume of production that can be brought on within thirty days and sustained for at least ninety days). Managing large spare capacity is

not a straightforward task; it can increase tensions between members, who have an incentive to violate the quota arrangement by selling more oil than agreed. The situation would become even more burdensome if Iraq, another important OPEC member, succeeds in meeting its goal of expanding production capacity to 9 mbpd in 2020, up from its current 3 mbpd.

## The Next Steps

There is no doubt that a long-term nuclear deal with Iran would create interesting intricacies in world energy markets. However, other major oil and gas producers in the Middle East may not need to be too concerned about rising Persia—at least not in the short term. Even if an agreement on Iran’s nuclear program is reached, it would be premature to predict that the oil and gas markets will be immediately flooded with new supplies from that part of the world.

Many technical and legislative bottlenecks remain. Iran might get some speedy concessions, but these are unlikely to reverse the oil and gas production and investment realities in the country, given that oil and gas projects require long-term commitments lasting decades. Furthermore, the removal of sanctions, especially U.S. sanctions, is a lengthy and complex process. Oil companies will also have to assess whether the new contract arrangements are enticing enough to commit valuable capital.

Under the most optimistic scenario, it would take oil production much longer to reach pre-revolution levels. Experience shows that many oil-producing countries that faced domestic unrest struggled to increase their production to pre-crisis levels. Iran is unlikely to be any different.

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